

Claims

[c1] What is claimed is:

1. A method for refreshing at least a program code in an electronic system, the electronic system comprising a host device and a peripheral device, the peripheral device comprising:

a control circuit for executing a first program code to control operations of the peripheral device according to an instruction from the host device;

the method comprising:

accessing a second program code; and

executing an inspection step in the host device before the second program code replaces the first program code of the peripheral device to utilize the host device to check whether partial content of the second program code conforms to a predetermined content.

[c2] 2. The method of claim 1 wherein the peripheral device further comprises a storage memory for non-volatilely storing the first program code; when the first program code is replaced by the second program code, the first program code is erased from the storage memory, and the second program code is recorded into the storage

memory.

- [c3] 3. The method of claim 1 wherein when executing the inspection step in the host device before the second program code replaces the first program code, the inspection step is proceeded before the control circuit executes the second program code to control operations of the peripheral device.
- [c4] 4. The method of claim 1 wherein the predetermined content is partial content of the first program code or a constant recorded in the first program code and executing the inspection step in the host device comprises checking whether the second program code includes partial content of the first program code, or whether the constant recorded in the second program code is equal to the constant in the first program code, or whether the constant recorded in the second program code conforms to a predetermined range of the constant in the first program code.
- [c5] 5. The method of claim 1 wherein the predetermined content is a fixed content so that the predetermined content cannot be changed when the second program code is changed.
- [c6] 6. The method of claim 1 wherein when executing the

inspection step in the host device, the host device will access partial content in a predetermined address in the second program code to check whether the partial content conforms to the predetermined content, or to search if the predetermined content exists in the second program code.

[c7] 7. The method of claim 1 further comprising ceasing to replace the first program code with the second program code after executing the inspection step in the host device if partial content of the second program code does not conform to the predetermined content.

[c8] 8. The method of claim 1 further comprising replacing the first program code with the second program code after executing the inspection step in the host device so that the control circuit can execute the second program code to control operations of the peripheral device if partial content of the second program code conforms to the predetermined content,.

[c9] 9. A method for refreshing at least a program code in an electronic system, the electronic system comprising a host device and a peripheral device, the peripheral device comprising:
a control circuit for executing a first program code to control operations of the peripheral device;

the method comprising:

transmitting a second program code from the host device to the peripheral device; and

executing a device inspection step, before the second program code replaces the first program code of the peripheral device, to utilize the control circuit to check whether partial content of the second program code conforms to a predetermined content.

[c10] 10. The method of claim 9 wherein the peripheral device further comprises a storage memory for non-volatilely storing the first program code; when the first program code is replaced by the second program code, the first program code is erased from the storage memory, and the second program code is recorded into the storage memory.

[c11] 11. The method of claim 9 wherein when executing the device inspection step before the second program code replaces the first program code, the device inspection step precedes the control circuit executing the second program code to control operations of the peripheral device.

[c12] 12. The method of claim 9 wherein the predetermined content is partial content of the first program code, or a constant recorded in the first program code and execut-

ing the device inspection step comprises checking whether the second program code includes partial content of the first program code, or checking whether the constant recorded in the second program code is equal to the constant in the first program code, or checking whether the constant recorded in the second program code conforms to a predetermined range of the constant in the first program code.

[c13] 13. The method of claim 9 wherein the predetermined content is a fixed content so that the predetermined content cannot be changed when the first program code is replaced by the second program code.

[c14] 14. The method of claim 9 wherein when executing the device inspection step, the control circuit accesses partial content in a predetermined address in the second program code to check whether the partial content conforms to the predetermined content, or to search if the predetermined content exists in the second program code.

[c15] 15. The method of claim 9 further comprising ceasing to replace the first program code with the second program code after executing the device inspection step if partial content of the second program code does not conform to the predetermined content.

[c16] 16. The method of claim 9 further comprising replacing the first program code with the second program code after executing the device inspection step so that the control circuit can execute the second program code to control operations of the peripheral device if partial content of the second program code conforms to the predetermined content.

[c17] 17. The method of claim 9 wherein the peripheral device further comprises a buffer for volatily storing data; when executing the device inspection step, the control circuit temporally stores the second program code into the buffer to access partial content of the second program code and to proceed with the device inspection step.

[c18] 18. The method of claim 17 wherein the peripheral device further comprises a non-volatile storage memory for non-volatily storing the first program code; when executing the device inspection step before the first program code is replaced by the second program code, the device inspection step precedes the first program code being erased and the second program code being recorded in the non-volatile storage memory.

[c19] 19. The method of claim 9 wherein the peripheral device

is an optical drive.

- [c20] 20. A peripheral device comprising:
a control circuit for executing a first program code to control operations of the peripheral device; the control circuit comprising a checking module, the checking module being used to check whether partial content of the second program code conforms to a predetermined content before the control circuit replaces the first program code with a second program code.
- [c21] 21. The peripheral device of claim 20 further comprising a non-volatile storage memory for non-volatilely storing the first program code; when the first program code is replaced by the second program code, the first program code is erased from the non-volatile storage memory and the second program code is recorded into the non-volatile storage memory.
- [c22] 22. The peripheral device of claim 20 wherein when the checking module operates an examining process before the control circuit replaces the first program code with the second program code, the checking module operates before the control circuit executes the second program code to control operations of the peripheral device.
- [c23] 23. The peripheral device of claim 20 wherein the prede-

terminated content is partial content of the first program code, or a constant recorded in the first program code; when the checking module operates an examining process, the checking module checks whether the second program code includes partial content of the first program code, or whether a constant recorded in the second program code is equal to the constant in the first program code, or whether the constant recorded in the second program code conforms to a predetermined range of the constant in the first program code.

[c24] 24. The peripheral device of claim 20 wherein the predetermined content will not be changed when the first program code is replaced by the second program code.

[c25] 25. The peripheral device of claim 20 wherein when the checking module operates an examining process, the control circuit will access partial content in a predetermined address in the second program code so that the checking module can check whether the partial content conforms to the predetermined content, or to search if the predetermined content exists in the second program code.

[c26] 26. The peripheral device of claim 20 wherein if partial content of the second program code does not conform to the predetermined content, the control circuit will

cease to replace the first program code with the second program code after the checking module operates an examining process.

- [c27] 27. The peripheral device of claim 20 wherein after the checking module ensures that partial content of the second program code conforms to the predetermined content, the control circuit replaces the first program code with the second program code so that the control circuit can execute the second program code to control operations of the peripheral device.
- [c28] 28. The peripheral device of claim 20 further comprising a buffer for volatily storing data, wherein the control circuit temporally stores the second program code in the buffer and the checking module operates an examining process after the control circuit accesses partial content of the second program code.
- [c29] 29. The peripheral device of claim 28 being applied in an electronic system, the electronic system further comprising a host device, wherein the second program code is transmitted from the host device to the peripheral device.
- [c30] 30. The peripheral device of claim 28 further comprising a non-volatile storage memory for non-volatily storing

the first program code; when the checking module operates the examining process before the first program code is replaced by the second program code, the device inspection step precedes the first program code being erased and the second program code being recorded in the non-volatile storage memory.

[c31] 31. A method for refreshing at least a program code in an electronic system, the electronic system comprising a host device and a peripheral device, the peripheral device comprising:

a control circuit for executing a first program code to control operations of the peripheral device according to an instruction from the host device;

the method comprising:

accessing a second program code; and

executing an inspection step before the second program code replaces the first program code of the peripheral device to generate a corresponding content characteristic according to the second program code and to check whether the corresponding content characteristic conforms to a predetermined characteristic, the predetermined characteristic being not changed when the first program code is replaced by the second program code.

[c32] 32. The method of claim 31 wherein the inspection step is proceeded by the host device.

[c33] 33. The method of claim 31 wherein the inspection step is proceeded by the control circuit of the peripheral device.

[c34] 34. The method of claim 31 wherein the content characteristic is an address where a predetermined content is located in the second program code and the predetermined characteristic is a predetermined address; the inspection step further comprising checking whether the address where the predetermined content is located in the second program code is equal to the predetermined address.